

WHAT IS CLAIMED IS:

- 1 1. A linear image sensor comprising:
2 photodiode arrays; and
3 a shutter structure provided parallel to the photodiode
4 arrays, the shutter structure including: a shutter electrode;
5 and a shutter drain provided below the shutter gate electrode
6 constituting the shutter structure.

- 1 2. A linear image sensor according to claim 1, wherein
2 an upper portion of the shutter drain is covered with the shutter
3 gate electrode.

- 1 3. A linear image sensor according to claim 1, wherein
2 the number of the photodiode arrays is set to one.

- 1 4. A linear image sensor according to claim 1, wherein
2 the shutter structure is provided between the photodiode arrays.

- 1 5. A linear image sensor comprising:
2 a photodiode array;
3 a readout gate provided parallel to the photodiode array
4 on one side of the photodiode array;
5 a CCD shift register provided parallel to the readout gate;
6 an output circuit provided for output from the CCD shift
7 register; and
8 a shutter structure provided parallel to the photodiode
9 array on the other side of the photodiode array, the shutter
10 structure including: a shutter gate electrode that is provided

11 parallel to the photodiode array on the other side of the
12 photodiode array; and a shutter drain provided below the shutter
13 gate electrode.

1 6. A linear image sensor according to claim 5, wherein
2 an upper portion of the shutter drain is covered with the shutter
3 gate electrode.

1 7. A linear image sensor comprising:
2 a photodiode array pair provided parallel to each other;
3 a shutter gate electrode that is provided parallel to the
4 photodiode array pairs so as to be common to the photodiode array
5 pair; and
6 a shutter drain that is provided below the shutter gate
7 electrode.

1 8. A linear image sensor according to claim 7, wherein
2 an upper portion of the shutter drain is covered with the shutter
3 gate electrode.

1 9. A linear image sensor according to claim 7, wherein:
2 three pairs of the photodiode array pair are provided
3 parallel to one another; and
4 each photodiode array pair includes one of color filters
5 having different colors that are RGB.